

GENERATION |

REGENERATION

Expert-physicians bringing you the latest science and clinical practice in regenerative medicine from around the world.



A collaboration by RegenLab USA & Long Island University

The BioBridge Foundation was created with the objective of promoting scientific research in Regenerative Medicine, in particular cell therapies.

The Biobridge Foundation allows to gather a network of health professionals on a regular basis during BioBridge International Conferences taking place worldwide or during educational and training events.

The Foundation also liaises with the general public through the creation and sponsorship of cultural and scientific events with the goal is to educate and provide continuing education on PRP treatment. The BioBridge Foundation is Regen Lab's educational partner.

BioBridge Knowledge Platform

The BioBridge Knowledge Platform is an online platform built for education in the field of PRP and cell therapy. It mainly contains recordings of scientific lectures, webinars and workshops offered by BioBridge worldwide. Furthermore, it enables the exchange with other users.

Access to this platform is available to Regen Lab customers via an authentication code, which can be obtained from your sales representative.

BioBridge Congress and Conference

The BioBridge Foundation regularly organizes congresses and conferences on the topic of PRP and its possible applications. PRP experts from various countries present the latest results of their research and applications in everyday practice, they share their knowledge and many years of experience. It also offers the possibility of personal exchange of experience with other users.

BioBridge Workshops and Webinars

Whether in the context of congresses or as separate conferences, on-site or online, the BioBridge Foundation regularly offers lectures and workshops on PRP therapy.

These usually include general information on PRP, an explanation of the separating gel technology and its benefits, a part related to the possible uses of PRP and its evidence, and a hands-on part.

BioBridge Books

• Standardization of Platelet Rich Plasma (PRP) and Cell Therapy

This book (178 pages) was written to help professionals involved in regenerative medicine better understand PRP and the use of cell therapies.

• Standardized Platelet-Rich Plasma for Musculoskeletal Disorders

This book (179 pages) was written to help professionals involved in the treatment of patients with musculoskeletal disorders to better understand PRP and its combination with hyaluronic acid.

• RegenPRP®: Standardized Platelet Rich Plasma for Skin, Hair & Genitourinary Disorders

This book (211 pages) was written to help professionals involved in the management of patients suffering from skin, hair and genitourinary disorders to better understand the use of PRP and cell therapies.

Based on 20 years of experience, these three books are intended for physicians practicing and conducting research in disciplines where PRP is a therapeutic option, as well as anyone seeking reliable and up-to-date information about this technology.

General Information

**** BioBridge USA Generation REGENeration 1st Annual Conference

Saturday, November 19, 2022 FULL-DAY CONFERENCE WITH INTERNATIONAL EXPERTS LONG ISLAND UNIVERSITY, BROOKLYN CAMPUS, NEW YORK

TWO TRACKS OF CONCURRENT SCIENTIFIC SESSIONS & PANEL DISCUSSIONS

Track I – SKIN CARE & URO-GYNECOLOGY

Track II – MUSCULOSKELETAL & ORTHOPEDIC SURGERY





LONG ISLAND UNIVERSITY

Founded in 1926, LIU has strategic advantages with two major campuses along Long Island (Brookville and Brooklyn) to change the dynamics in the region for leveraging research grants into jobs with high economic development impact. The I-495 "Tech Corridor" is already home to hundreds of pharmaceutical companies. Besides Arnold and Marie Schwartz College of Pharmacy & Health Science, and The Harriet Rothkopf Heilbrunn School of Nursing, LIU is developing new buildings and resources driving the total remake of the Brooklyn Campus via an Air Rights agreement and has established the nation's 32nd Veterinary School on Long Island Campus. Long Island University is at the forefront of revolutionizing health care training and research in higher education with the ongoing Center of Excellence in Life Sciences sponsored by the top 50 fortune company. According to US Census workforce indicators, Long Island's pharmaceutical/nutraceutical manufacturing sector outpaced employment in all other industries in New York State combined.





Conference Venue

NOVEMBER 19, 2022 BioBridge USA Generation REGENeration

1st Annual Conference

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F RΔ REGENERATION



• 8:30 am - 09:00 am

Registration and welcome coffee (Humanities Building)

• 09:00 am - 09:15 am

Opening Remarks (Kumble Theatre - 4) Dr. Kimberly Cline, President, Long Island University Mr. Antoine Turzi, CEO, RegenLab and Biobridge Foundation

• 09:15 am - 09:30 am Signature of the Strategic Alliance Agreement

Honorary Guests: **Dr. Chakib Nejjari**, Project Manager for Health in Morocco at the Ministry of Public Health **Mr. Randy Peers**, President and CEO, Brooklyn Chamber of Commerce

• 09:40 am - 4:50 pm CONCURRENT SCIENTIFIC SESSIONS & PANEL DISCUSSIONS International expert-physicians **Track I - Skin Care & Uro-Gynecology** (Edmund and Jeanette Pratt Lecture Hall - HS121 - 14) **Track II - Musculoskeletal & Orthopedic Surgery** (Kumble Theatre - 4) including morning & afternoon breaks + lunch in Cyber Café - 8

• **4:40 pm - 5:20 pm Future vision** (Kumble Theatre - 4) **Dr. Steve Levine**, Sr. Director of Virtual Human Modeling, Dassault Systems

• 5:20 pm - 5:50 pm Closure Dr. Mohammed Cherkaoui, VPAA & Vice President of Research, LIU Dr. Randy Burd, Sr. VPAA, LIU

• 5:50 pm - 6:00 pm Humanitarian and Emergency Care in Military Deployment

Scientific Sessions

NOVEMBER 19, 2022

BioBridge USA Generation REGENeration 1st Annual Conference

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Track I – SKIN CARE & URO-GYNECOLOGY

9:40 am - 10:20 am SKIN REJUVINATION

Keynote speaker: Dr. Ali Modarressi (Switzerland) Skin rejuvenation, from bench to bedside

Dr. Ghislaine Beilin (France) Cellular Matrix as a 3D Bioscaffold Matrix Facelift

11:10 am - 11:50 am ALOPECIA

Keynote speaker: Dr. Anthony Rossi (USA) RegenPRP for the treatment of chemotherapy -induced alopecia

11:10 am - 11:50 am UROLOGY

Keynote speaker: Dr. Sebastien Beley (France) RegenPRP in erectile dysfunction and Cellular Matrix for Peyronie's disease management

1:10 pm - 1:50 pm GYNECOLOGY

Keynote speaker: Dr. Agnieszka Nalewczynska (Poland)

Performance and safety of Cellular Matrix versus saline solution in patients suffering from lichen sclerosus and clinical overview of the Genitourinary Syndrome of Menopause (GSM)

Dr. Gustavo H. Leibaschoff (Argentina, USA) PRP in fertility treatments

2:20 pm - 2:50 pm CHRONIC WOUND MANAGEMENT

Dr. Oussama Almaghraoui (Morocco)

Clinical study demonstrating the prevention of limb amputation

Dr. Karim El Khatib (Morrocco)

Improving skin grafting with autologous biologics



Track II – MUSKULOSKELETAL & ORTHOPEDIC SURGERY

9:40 am – 10:20 am ORTHOPEDIC SURGERY

Keynote speaker: Dr. Rodolfo Capanna & Dr. Antonio D'Arienzo

Mesenchymal cells in bone regenerative medicine: our experience in orthopedic clinical applications

Dr. Edoardo Ipponi & Dr. Nicola Fabbri (Italy)

Presentation of the BioBridge Foundations' newest book publication

Dr. Armin Keshmiri (Germany)

Minced cartilage technique with RegenPRP and Autologous Thrombin Serum (ATS)

11:10 am - 11:50 am INNOVATION IN ORTHOPEDICS

Keynote Speaker: Dr. Christian Hendrich (Germany) Good Manufacturing Practice (GMP) laboratory for stem-cells in the OR – possible or not?

Dr. Stefano Giannotti (Italy) Tissue engineering in orthopedic surgery

1:10 pm - 1:50 pm SPORTS MEDICINE & JOINT INFILTRATION

Keynote Speaker: Dr. Patrick Goh (Singapore) Overview of biological infiltrations in sports medicine

Dr. Jalal Hassoun (Morocco) & Mr. Farid Gomri, MSc. (Switzerland)

Treating knee osteoarthrosis with Cellular Matrix, a retrospective study of more than 330 knees.

Dr. Jen Li Pan (Taiwan)

Precision PRP Pain Intervention

2:20 pm - 2:50 pm OROFACIAL SURGERY

Keynote Speaker: Dr. Ralf Smeets (Germany) Bio-stimulation in orofacial soft tissue regeneration

PLENARY

3:50 pm - 4:20 pm PROPHYLAXIS

Keynote Speaker: Dr. Filiberto Serraino (Italy) RegenPRP and Autologous Thrombin Serum (ATS) in sternotomy reduce the incidence of sternal wound infections

2022 FDA Indications for Medical Devices manufactured by RegenLab in the USA

4:40 pm - 5:10 pm FUTURE VISION

Dr. Steven Levine (United States)

5:20 pm – 5:50 pm CLOSURE Dr. Mohammed Cherkaoui (Morocco)

5:50 pm – 6:00 pm FINAL MESSAGE Humanitarian and Emergency Care in Military Deployment

*All sessions conclude with a panel discussion



Dr. Chakib Nejjari

Doctorate in medicine and a doctorate in science, and extensive experience in teaching and research.

Former President of the Mohammed VI University of Health Sciences in Casablanca, and of the Association des Epidémiologistes de Langue Française. Project manager for health in Morocco at the Ministry of Public Health. **Morocco**

NOTES

Prof Chakib Nejjari is going to discuss the actual situation of public health development in Morocco, the changes and the futur opportunities and he will go deeper in the field of regenerative medicine development in Africa in terms of learning and clinical application.

Chakib Nejjari, MD, PhD is an experienced academic and epidemiologist with an international profile. He developed high expertise in international collaborative research projects, medical education and training projects as well as in leading cross-disciplinary, multi-site programs. Chakib Nejjari had many responsibilities in university, hospital and in scientific societies. He was an expert for European union and world health organization. His research interests include many aspects of epidemiology, clinical research and public health (cancer, chronic disease diseases.) and main risk factors (Infection, environmental risk factors).

He was the coordinator of many studies such as studies for preparation of Moroccan national plan against cancer adopted by Moroccan government in 2009. Chakib Nejjari is the past president the ADELF, the main international scientific association of epidemiology in French speaking countries (Paris), and the past Director of the National School of Public Health (Rabat) and the founder of department of epidemiology, clinical research and community health in Fez University.

Presently, Chakib Nejjari serves on several international, national and local bodies including Advisory Council of University of Fez, national committee for pharmacovigilance, national committee cancer research and many others committees of Ministry of health. Chakib Nejjari is authors of more than 200 indexed publications and Ranked among the top 2% scientists of the world (calendar year 2019, and calendar year 2021)

TRACK 1 – AESTHETIC MEDICINE – UROLOGY & GYNECOLOGY



Dr. Ali Modarressi

Associate physician in Plastic, Reconstructive and Aesthetic Surgery at the University Hospitals of Geneva (HUG).

Switzerland

Ali Modarressi, MD is the Senior consultant in Plastic, Reconstructive & Plastic Surgery of University hospital of Geneva in Switzerland, and practices also in his private office. He is board certified with Swiss diploma of Plastic, Aesthetic & Reconstructive Surgery and fellow of the European Board of Plastic Surgeons (EBOPRAS).

Major emphasis is placed on reconstructive surgery, wound healing and tissue regeneration with stem cells (fat grafting and platelet riche plasma), where he did an extensive research. Thanks to his basic science and clinical experience he trained many physicians since several years in different field of aesthetic medicine and surgery.

He is involved in humanitarian surgical mission since 2010, and in "2nd Chance" since 2015. He developed a teaching program for African general surgeons who would like to become plastic surgeons.

He is member of Swiss Society of Plastic, Reconstructive & Aesthetic Surgery (SSCPRE), International Federation of Adipose Therapeutic & Sciences (IFATS) European Society for Surgical Research (ESSR) and faculty member of American Academy of Aesthetic Medicine (AAAM).

TRACK 1 – AESTHETIC MEDICINE – UROLOGY & GYNECOLOGY



Dr. Beilin is a Graduate of the University of Paris, Cochin and has dedicated her professional career to becoming a pioneer in aesthetics medicine. She is the founder of the first laser center in Paris and has contributed with her extensive knowledge and expertise as a consultant in R&D for pharmaceutical industry, developing products such as filler, energy-based devices, mesotherapy, threads, and cosmetics.

Dr. Beilin devotes some of her time to teaching as a Professor at the Paris Medical University, and is part of the Scientific committee, acts as key opinion leader and trainer in the main international medical congresses worldwide.

Abstract

Cellular Matrix as a 3D Bioscaffold Matrix Facelift

Skin has the same aging process as all the tissu of the body. Dermatoporosis has been described and classified as Osteoposis.

From our knowledge on PRP tissue enginery as a autologous bioscalfold, and on Hyaluronic Acid as an extra cellular matrix and a filler; we can easily understand their powerful association in CELLULAR MATRIX*and this use in the traitement in skin and facial aging.

We will describe the biological and physiological concept and the technics for the use of CELLULAR MATRIX*as a 3D bioscaflold Matrix facelift.

Dr. Ghislaine Beilin

Aesthetic and anti-aging doctor. Vice President of SNME Syndicat (National Aesthetic Physicians) Past president of ESAAM (European Society of Anti-Aging and regenerative medicine) **France**



Dr. Anthony Rossi

MD, FAAD, FACMS Memorial Sloan Kettering Cancer Center Weill Cornell Medical Colleg **United States**

Dr. Anthony Rossi board-certified dermatologist and micrographic surgeon. He attended New York University undergraduate, majoring in Biochemistry. He then attended Weill Cornell Medical College, where he was president of his class. He went on to complete dermatology residency at St. Luke's Roosevelt – Beth Israel hospitals in New York where he trained under Dr Vince DeLeo, an expert in photobiology. He completed fellowship training in cutaneous oncology at Memorial Sloan Kettering Cancer Center and Weill Cornell Medical College. He currently works as a dermatologic surgeon at Memorial Sloan Kettering and is an assistant professor of dermatology at Weill Cornell Medical College.

Dr. Rossi's research interests include non-invasive imaging of the skin, surgical dermatology, lasers and light-based devices, as well as aesthetic restoration of the skin. While working at Memorial Sloan Kettering Cancer Center he has helped pioneer Restorative Oncodermatology which aims to help cancer patients and survivors manage the sequalae of treatment related effects of the skin. He currently has a clinical trial utilizing platelet rich plasma to treat endocrine-induced and chemotherapy induced alopecies in breast cancer patients. He has published over 100 peer reviewed scientific papers and book chapters, and is currently an assistant editor of the Journal of the American Academy of Dermatology, Dermatologic Surgery Journal, and Lasers in Surgery and Medicine Journal.

He is active in multiple dermatologic organizations, including the American Society for Dermatologic Surgery (ASDS) where he currently serves as a board member and Secretary of the organization. He also is active in the American Academy of Dermatology (AAD), American Society of Lasers in Surgery and Medicine (ASLMS), as well as the American College of Mohs Surgeons (ACMS). He is also founder and creator of Dr. Rossi Derm MD Skincare, a complete peptide based regime that targets skin sensitivity and aging.

He has worked internationally in Ghana, Botswana, Tanzania, and Kenya and continues teledermatology connections. He enjoys traveling, playing tennis, exercising, and Italian film.

Abstract

Platelet-Rich Plasma (PRP) for the Treatment of Endocrine Therapy-Induced Alopecia (EIA) and Permanent Chemotherapy-Induced Alopecia (pCIA) in Breast Cancer Patients

Background:

Chemotherapy induced and endocrine induced alopecia are well described entities that occur secondary to treatment for malignances such as breast carcinoma. The psychosocial impact of these alopecias have been well described in the literature, with such negative effects on quality of life that some patients opt to stop treatment because of it. The medical treatment paradigms of EIA and pCIA have limited efficacy, with pCIA being more difficult to treat. Historically PRP has been contraindicated in cancer patients due to the idea of circulating tumor cells and autologous blood products. This study seeks to determine the effectiveness and safety of PRP as a monotherapy for EIA and pCIA in breast cancer patients on active treatment.

Methods:

This is a single-center, prospective, independent rater, split-scalp randomized pilot study to evaluate the efficacy and safety of platelet-rich plasma (PRP) in the treatment of endocrine therapy-induced alopecia (EIA) and persistent chemotherapy induced alopecia (pCIA) in breast cancer patients. Patients are randomized and one side of the scalp is treated for 3 treatment sessions with PRP while the other side is used as a control. The patient then has the option to treat the opposite side of the scalp.

Results:

At interim analysis, 18 patients completed the primary endpoint. The mean age was 61 years and all women have breast cancer. The breakdown of endocrine induced alopecia was:

Selective estrogen receptor modulator (tamoxifen, raloxifene) 6 (33.3%)

Aromatase inhibitor (anastrozole, exemestane, letrozole) 5 (27.8%)

The breakdown of chemotherapy induced alopecia includes: AC-T 4 (22.2%); dd-ACT 1 (5.6%); AC-THP 1 (5.6%); TCHP 1 (5.6%)

Conclusion:

This is the first study showing the safe and effective use of PRP for hair regrowth in chemotherapy induced and endocrine induced alopecia in breast cancer patients. We see diffusion of treatment effect when one side of the scalp is treated which is in line with studies of PRP for androgenetic alopecia. Further studies are needed to elucidate the use of PRP in combination with medical therapies.

TRACK 1 – AESTHETIC MEDICINE – UROLOGY & GYNECOLOGY



Dr. Sebastien Beley

Surgeon in Urology – Andrology specialist American Hospital of Paris Clinique Turin Paris, France **France**

Abstract

The penis is a complex organ. Its main physiological function is erection. Ageing and vascular risk factors decrease erectile capacity by deteriorating the penile endothelium, the smooth muscles and the albuginea of the cavernous bodies resulting clinically in erectile dysfunction (ED) and Peyronie's disease (PD).

Platelet Rich Plasma (PRP) is a promising, minimally invasive treatment option with no major complications for treating patients with ED and PD (Epifanova et al. 2019). It has been shown to bring an improvement in their quality of life and sexual function, as well as clinical improvement of symptoms in ED and PD. (Virag et al. 2014, Virag et al. 2017)

PRP, in addition to its regenerative properties, produces anti-inflammatory and immunomodulatory effects which lead to a resolution of many erectile dysfunctions.

Clinical Outcomes:

An overview of 100 clinical cases with Dr Sebastien Beley in erectile dysfunction using autologous biologics.



Dr. Agnieszka Nalewczynska

I graduated from the Medical Academy in Warsaw in 2006, and doctoral studies with honors. I have participated in many training courses in the field of aesthetic medicine, learning about the latest techniques and trends in the field of AntiAging. I have often presented my works and publications at medical congresses and conferences. I I received a Masovian PhD scholarship and a research scholarship at the Gregorio Maranon hospital in Madrid. I graduated from the Postgraduate School of Aesthetic Medicine and Anti-Aging, obtaining the title of aesthetic medicine doctor with honors. During my work, I am guided by the goal of choosing the best way to revitalize the patients' skin without changing the appearance of the face. I am a representative of the board of the Polish Society of Plastic and Reconstructive Gynecology. I am an international trainer in the field of the use of lasers in gynecology, platelet-rich plasma as well as hyaluronic acid and biorevitalization treatments .

Poland

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Abstract

Vulval and vaginal conditions

Objective: The aim of the study was to compare platelet-rich plasma combined with hyaluronic acid (PRP-HA) versus placebo (saline) as a treatment for women with presenting symptomatic lichen sclerosus (LS)

Methods: This was a prospective, randomized, monocentre, controlled, patient- and observer-blinded study (evaluation at 3, 6 and 12 months by an independent observer). Trial was approved by the ethics committee of the Medical University of Warsaw.

Patients: 72 women aged 19 to 76 years where enrolled to the study from 2018 to 2019. All patients had confirmed LS on biopsy. Women were unresponsive to topical steroid treatment in all cases. The patients were divided into 2 groups.

Treatment group: patients treated with two injections of the PRP/HA at (48 patients) in 4 weeks apart.

Control group: treated with two injections of saline (24 patients) in 4 weeks apart.

Interventions – In treated group patients' own blood (8 mL) was collected using the Cellular Matrix BCT-HA Kit (Regen Lab SA, Switzerland). 4 ml of PRP/HA combination or salline was obtained. The injection was carried out using a 27-gauge needle in a fanning motion and retrograde injection into affected areas of the external genitalia.

Main Outcome Measures: Patients completed a questionnaire on the severity of symptoms (e.g., itching, soreness, discomfort, and dyspareunia) after each treatment session, and lesions were evaluated at each session by colposcopy. Quality of life (QOL) was evaluated using the Dermatology Life Quality Index (DLQI).

Results: 43 of 48 patients showed clinical improvement in the size of their lesions, and in 14 of the 48 patients lesions disappeared after treatment with PRP-HA. A Wilcoxon signed-rank test indicated that there was a statistically signifiant decrease in the number of patients with lesions after PRP/HA treatment (P < 0.001). 62,5% women had become free of symptoms after the treatment at 12 months follow-up (P < 0.001). A significant reduction in erosion severity (P=0.00) and itching (P=0.01) was observed in the PRP-HA group.

Conclusion: Study highlights that PRP-HA seems to be a promising new treatment for female genital LS.



Dr. Gustavo H. Leibaschoff

International Consultants in Aesthetic Medicine (ICAM) Argentina, Unites States

President of the World Society of Cosmetic Gynecology-WSCG.

President of the International Union of Lipoplasty-IUL.

Co Director of the University Course of Specialization in Aesthetic and Functional Gynecology and Female Aesthetic Genital Surgery University of Barcelona Spain 2017-2020

Vice President of ISRAIT International Society of Reconstructive and Aesthetic Intimate Treatment

Director of ICAM USA ACADEMY International Consultants in Aesthetic Medicine Member of ISPRES International Society of Plastic Regenerative Surgeons

NOTES

Abstract

PRP in fertility treatments

Life is extended, but environmental pollution causes our body to suffer sequelae that are reflected in the immune system and the reproductive system among many others. We see how the number of births has been reduced while the lifespan of people is lengthened.

On the other hand, we see how cases of infertility have increased (38%), also the diagnosis but there are new therapeutic elements that allow us to be optimistic. Example 10-15% of the world's population has POF (Curr Stem Cells Res Ther2020;15(6):473-81)

The number of children under 5 will fall from 681 million in 2017 to 401 million in 2100. The number of people over 80 will rise from 141 million in 2017 to 886 million in 2100

The Premature ovarian insufficiency with 1- Cessation of ovarian function before the age of 40. 2- Amenorrhea, hypergonadotropic hypogonadism. 3- Infertility.

Researchers are looking for ways to find and activate endogenous female germline ovarian stem cells (FGSC) to restore ovarian function, as the most promising approach to save the ovary from aging

To investigate the impact of a 3-month course of intracortical injections of autologous platelet-rich plasma (PRP) upon ovarian reserve markers versus no intervention in women with low ovarian reserve prior to undergoing assisted reproductive technology (ART)

Prospective controlled, non-randomized comparative study conducted in a private fertility clinic. Women with abnormal ovarian reserve markers (FSH, AMH and AFC) who declined oocyte donation were allocated to one of the following groups according to patient choice: monthly intracortical ovarian PRP injections for three cycles, or no intervention. Primary outcomes were the change in FSH, AMH and AFC pre- and post-treatment. Secondary outcomes included the number of oocytes collected and fertilized, biochemical/clinical pregnancy rates and miscarriage and live birth rates

At the 3-month follow-up, women treated with PRP experienced a significant improvement in FSH, AMH and AFC, whereas there was no change in the control group

Conclusion PRP injections are effective and safe to improve markers of low ovarian reserve prior to ART, although further evidence is required to evaluate the impact of PRP on pregnancy outcomes



Dr. Oussama Almaghraoui

Vascular Surgeon

Military Hospital Avicenne – Marrakech – Morocco Universitary Hospital Mohammed IV – Marrakech – **Morocco** Dr. Oussama Almaghraoui is exercing in the military hospital of Avicenne in Marrakech, Morocco, since 2016 in the vascular surgery department and has launched, since then, the use of the biological glue for the management of chronic wound (Diabetic foot ulcers). He has a high track record in the use of this technic and has developed an expertise with a clinical study under review for publication on 99 patients comparing the efficacy of RegenWound vs standard dressing. He is the official trainer of RegenLab within the Vascular Surgery Association.

Abstract

Clinical study demonstrating the prevention of limb amputation

Autologous Platelet-Rich Plasma (PRP) is used as source of growth factors (fibroblast GF, PDGF, IGF, BGF, VEGF, IGF) released by activated platelets and proteins (fibrinogen, vitronectrin, fibronectin), which are capable altogether of inducing wound regeneration and tissue repair. Since then, PRP is effectively used on non-healing wounds (trophic and vascular ulcers, diabetic foot ulcers, decubitus ulcers, fistulae and burns).

Our work aims to evaluate the effectiveness of PRP combined with autologous thrombin serum compared to the standard dressing through a prospective and randomized comparative study, which has spread over 3 years, from January 2017 to January 2020 and conducted in the vascular surgery service of the Avicenne military hospital in Marrakech. The study included 99 patients divided into two groups: group A (49 patients) who received a PRP-based treatment and group B (50 patients) treated with standard dressing. Results will be presented in the New-York Biobridge Conference 2022.

TRACK 1 – AESTHETIC MEDICINE – UROLOGY & GYNECOLOGY



Prof. El Khattib began his medical activity as a Certified Practitioner of the Armed Forces Health Service in 2008 at Percy Army Training Hospital, France, then he was appointed Chairman of the working group on "War and Disaster Surgery" in 2014 at the International Committee of Military Medicine. In parallel, in 2013, he became Associate Professor of Val de Grace military school in Paris, France, where he worked on surgery applied to the armies, discipline of plastic surgery. Finally, today, and since 2013, Prof ElKhattib is Head of Plastic, Oral & Maxillofacial Dept at Armed Forces Teaching Hospital Mohammed V, Rabat, Morocco.

Abstract

Improving skin grafting with autologous biologics

Research has shown the real potential of platelet rich plasma to accelerate wound healing in a variety of conditions.

The purpose of this study is to prove that RegenPRP/ATS simplifies the surgical treatment of complicated pluritissular chronic wounds which normally needs advanced techniques as microsurgery or flaps' surgery to repair them and who can be managed by PRP injections and/or PRP dressings and a simple skin graft.

Through a few complicated clinical cases taken from a series of 30 patients, we show that RegenPRP/ATS is a treatment that may accelerate the reepithelization of injured tissue and permits their healing in good and sustainable conditions

Dr. Karim El Khattib

Associate Professor at the Val de Grâce, Paris Professor at the Faculty of Medicine of Rabat Head of the Stomatology and Maxillofacial Surgery Department Military Hospital of Instruction 'Mohammed V **Morocco**



Dr. Rodolfo Capanna

Specialist in Orthopedic Oncology and Limb Salvage Orthopaedic and Traumatology, Pisa Director of the Orthopaedics and Traumatology Department Unversity Hospital of Pisa Leader of the Bone Marrow Concentrate Application

Dr. Antonio D'Arienzo

MD , Orthopedic Oncology Center, Department of orthopedics and trauma surgery, University of Pisa **Italy**

NOTES

Medical studies at the University of Firenze and Palermo. During the Orthopaedics Residency Program, carried out at the University of Palermo, attends multiple fellowship periods concerning oncological orthopedics and complex reconstructive orthopedics at the Florence's CTO department and at the Pisa University Hospital both directed by Prof Capanna. Dedicated to orthopedic and multidisciplinary clinical research in the diagnosis and treatment of musculoskeletal tumors. He is also interested in reconstructive orthopedic and traumatology. He works at Orthopedic Oncology Center, Department of orthopedics and trauma surgery, University of Pisa.

Abstract

Focus on "Mesenchymal Cells in Bone Regenerative Medicine: our experience in orthopaedic clinical applications "

The use of concentrated bone marrow in various fields of orthopedics is now demonstrated by the great increase in literature in recent years. It represents an excellent tool in orthopedic clinical practice due to the large presence of stem cells of bone marrow origin which makes it central in Bone Regenerative Medicine. These cells have the characteristic of being able to differentiate into the chondrogenic and osteogenic line if properly manipulated and inserted in the right micro-environment, thus opening up the use of BMC in numerous orthopedic clinical applications. They can be used in massive bone defects, promoting bone healing and restoration of bone substance. Depending on the size of the gap, the BMC can be used alone or in association with bone grafts to promote their osseointegration. With the same principle they can be used to promote the healing of fractures or in case of pseudarthrosis, increasing the share of metabolically active cells of the fibroid and osteoid lineage in the fracture site. Some studies have also presented promising results regarding the use of BMC in patients with avascular necrosis of the femoral head and patients with pseudotumoral lesions such as simple bone cysts and aneurysmal cysts.

In our opinion, BMC is clinically safe and can produce effective results. The "biologic approach" has become sustainable both ethically and economically and therefore we believe the use of stem cells from concentrated autologous bone marrow is a valid aid in some aspects of orthopedic clinical practice. Future developments of Bone Regenerative Medicine could be future "intelligent scaffolds" with slow or programmed loading and release capacity of growth factors and tissue engineering with "charged scaffold" preloaded with MSC



Dr. Edoardo Ipponi¹

Resident, Department of orthopedics and trauma surgery, University of Pisa Italy

Dr. Nicola Fabbri²

Chief, Division of Orthopedic Oncology, NYU Langone Health **United States**

1. Medical studies at the University of Firenze, with an undergraduate observership experience at the UIC of Chicago. Currently included in the Orthopaedics Residency Program of the University of Pisa. Dedicated to orthopedic and multidisciplinary clinical research in the diagnosis and treatment of musculoskeletal tumors. 2. Dr. Nicola Fabbri is a surgeon with 20 years of experience in caring for patients of all ages with musculoskeletal cancers including diagnosis and surgery for various types of sarcoma and other vascular tumors as well as treating metastatic bone cancer. He has expertise in a variety of surgical strategies and complex limb-salvage techniques, including biologic, prosthetic, and hybrid reconstructions, as well as custom-designed implants and the use of 3-D technology. He especially focused on reconstructions associated with massive bone loss and deformities. His goal is to provide an individualized approach to each person he cares for.

Abstract

Presentation of the BioBridge Foundations' newest book publication: Regenerative Medicine in Orthopedic Surgery

The Bone Marrow Concentrate (BMC) represents a therapeutic tool with important microbiological and clinical potential. Over the past 30 years, the international medical literature has seen a considerable increase in the number of studies on this subject, providing evidence of various uses of the Bone Marrow Concentrate in different body districts and in several sub-branches of orthopedics.

The peculiarity of the Bone Marrow Concentrate lies in its high concentration of mesenchymal stem cells of bone marrow origin. If inserted within an adequate microenvironment, these multipotent stem cells have the potential to differentiate into an osteogenic, chondrogenic or adipogenic line. Stem cells of mesenchymal origin therefore have an intriguing regenerative power that could theoretically lead to promising results in everyday orthopedic clinical practice.

In case of massive bone deficits, the BMC implant can promote healing and ease the restoration of bone continuity. Depending on the size of the bone gap that must be filled, the BMC can be used alone, with the aim to induce and increase osteogenesis, or in association with 3D printed biological or prosthetic scaffolds, in order to populate the trabecular architecture and favor osseointegration. Mesenchymal stem cells can play a similar role in fracture healing as well. In case of pseudarthrosis on both a metabolic and non-mechanical basis, stem cells of bone marrow origin can guarantee new possibilities for fracture healing, increasing the share of metabolically active cells of the fibroid and osteoid line in the fracture focus.

Some studies have also presented promising results regarding the use of BMC in patients with avascular necrosis of their femoral head due to proximal femur fractures subjected to osteosynthesis. A further field of interest is represented by focal chondral damages and arthrosis. Unlike bone, which is a tissue with its own regenerative potential, articular cartilage has limited healing capacities and can be subject to the onset of chronic-generative damaging phenomena. Intra-articular infiltrations with BMC have been found to be effective in limiting osteochondral degeneration and sometimes reducing the extent of existing lesions. Stem cells can act both directly, by repopulating what remains of the local cartilage architecture, and indirectly by reducing the pro-inflammatory picture through a down-regulation of B and T lymphocytes.

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Finally, the use of mesenchymal stem cells has also shown excellent results in the treatment of tendon lesions. The placement of BMC in the focus of an acute injury (such as Achilles tendon ruptures) or a chronic injury (rotator cuff or epicondylar cuff tendinopathies) has shown led to reduced healing times and maximized functional post-operative outcomes.

Overall, the BMC and the mesenchymal stem cells it contains have been used in various fields of orthopedics and traumatology, leading to encouraging results. They must therefore be considered among the possible therapeutic approaches in modern orthopedics and can represent the future of clinical practice in numerous areas of interest.



Medical Studies at the University of Graz (Austria). Professor in Orthopedics at the Medical University of Regensburg (Germany) and Medical Director at Munich Airport Clinic. Spezialized in Knee and Hip arthroplasty. Currently dedicated to and Consultant for Regenerative Medicine and Orthobiologics.

Abstract

"Minced Cartilage technique with RegenPRP and Autologous Thrombin Serum (ATS)"

Different surgical options are available to address cartilage lesions. Autologous minced cartilage procedure has been gaining in popularity as a chondrocyte based, single-staged and cost-effective technique. To date limited evidence exists. In vitro and animal studies show induction of de novo production of extracellular matrix, chondrocyte outgrowth, proliferation, and differentiation with encouraging tissue generation. Biological, histological and immunohistological data seem comparable to 2-stage autologous chondrocyte implantation. Short-term clinical data indicate good clinical and functional results with low complication and revision rates. In this talk the technique and indications using the RegenPRP and RegenATS will be explained.

Dr. Armin Keshmiri

Orthopedic surgeon, Medical Director Airport Clinic Munich Specialized in Knee and Hip surgery and Orthobiologics **Germany**



Dr. Christian Hendrich

Chief Physician and Medical Director of the Orthopaedic Hospital Schloss Werneck. **Germany**

NOTES

Prof. Dr. Christian Hendrich is Chief Physician and Medical Director of the Orthopaedic Hospital Schloss Werneck since 2005. Performing more than 800 operations per year, he is one of the high-volume surgeons for endoprosthetics both nationally and internationally. Being the first surgeon to implant the large-diameter Ceramic-on-Ceramic prosthesis Maxera in 2012, in 2013 Prof. Hendrich introduced the MAKOplasty® to Germany. In 2017 the first total knee using MAKOplasty® outside the U.S. was performed in Werneck. Beside adult reconstruction his main interest lies in Sports medicine and Orthobiology. Being a pioneer in MSC-treament for orthopaedic conditions with more than 1.000 procedures performed in his hospital. Recently Prof. Hendrich obtained a manufacturing license for MSC from bone marrow. With his motto "Hightech and high-care in the Castle", Prof. Hendrich has developed a treatment concept that has been receiving top reviews for years, such as awards from Focus magazine or, most recently, the FAZ, Stern-magazine and Newsweek.

Studied human medicine at the Hannover Medical School. Among other things, he is a specialist in orthopedic surgery, sports medicine, and radiology for the musculoskeletal system. Since 2005, he has been Medical Director and Chief Physician of the Orthopedic Clinic Schloss Werneck.

Abstract

Good Manufacturing Practice (GMP) laboratory for stem-cells in the OR – possible or not?

The on-site processing of bone marrow into mesenchymal progenitor cells is viewed differently within the EU an the US. In Germany, bone marrow for non-haematopoietic therapy is generally considered an ATMP, i.e., it is subject to medicinal product legislation. A completely closed manufacturing system is not yet available on the market. However, the RegenKit® Extracell BMC comes closest to this requirement. As an ATMP the actually simple step of centrifugation and transfer into the application syringe has to be performed under the rules of Good Manufacturing Practice (GMP), which is unfamiliar to most doctors. In my view, the decisive factor is an excellent GMP consultant who is prepared to approach the doctor and the special conditions in the operating theatre and to seek agreements with the authorising authority at an early stage. The effort for this in Germany is considerable and burdened with many details. In our process validation, we demonstrated the successful enrichment of mesenchymal progenitor cells and directly confirmed the results of Berry et al. Finally, we obtained the manufacturing authorisation for mesenchymal progenitor cells using the RegenKit® Extracell BMC kit in June 2022. To our knowledge, we are the first Orthopaedic hospital in Germany to achieve this permission.



Dr. Stefano Giannotti

Hip, Shoulder and Knee Prosthesis Surgery, Arthroscopic Surgery, Traumatology, Researcher Tissue Engineering in Orthopedic Surgery. Associated Professor in Orthopedics and Traumatology University of Siena (Italy) Director of the School Specialization in Orthopedics and Traumatology of the University of Siena. Director of U.O.C. of Orhopedics Hospital University Policlinic of Siena – Italy

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He participated as a reporter to more than 300 National and International congress, has published 8 Monographs, has created 4 Scientific Films and has published more than 200 Scientific Papers on National and International Scientific Magazines.

Abstract

Tissue Engineering in Orthopedic Surgery

My experience with BMC and with PRP starts in the early 2000s.

In the past we have experimented with the possibility of expanding mesenchymal stem cells in the laboratory before using them in surgical sites, with excellent results that have been published.

Today I use the BMC with one step method in various surgical problems.

I use PRP especially in tendon pathologies.

Studies are underway on the in vitro expansion of mesenchymal cells and their ability to differentiate into different tissues using different scaffolds such as bovine bone scaffolds.



Dr. Patrick GOH

MBBS (S'pore), MSS, FAMS(Sports Medicine), PBM Specialist Sports Physician, Sports Medicine International, **Singapore**

NOTES

Dr. Goh, an accredited sports medicine specialist and full-time clinician, chairs the Sports Medicine Section of the Academy of Medicine (Singapore) and is a member of the Ministry of Health's Sports Medicine Subspeciality Training Committee.

He pioneered the use of point-of-care MSK ultrasound and ESWT in Singapore 25 years ago, and PRP for sports and musculoskeletal injuries 15 years ago. His expertise and experience in these areas have led to numerous speaking invitations and hands-on workshops around the world.

Abstract

Thrombin Activated PRP in Musculoskeletal injuries – Building a Bridge, or a Bridge Too Far?

The addition of thrombin to PRP results in rapid activation of PRP and the rapid formation of a platelet-rich fibrin clot.

However, critics of thrombin activation are quick to point out that the "dump truck" nature of the ensuing platelet growth factor release is both unnatural and non-physiological, and therefore could be sub-optimal towards "natural" soft tissue healing.

Nevertheless, the very nature of a platelet rich fibrin clot, if accurately emplaced within a targeted tissue through ultrasound guidance, could prove advantageous in selected circumstances. For example, such a clot could possibly be used to bridge a gap in acutely or chronically torn soft tissues, whereas PRP in its liquid form is unable to do so. The sticky nature of the clot may act as a glue or filler, while the platelets, held in position by a fibrin network may provide a focal point for healing within an otherwise vacant, acellular or degenerative zone. This provides the tantalizing possibility of using a PRP intervention to move beyond its usual role of biological stimulation, into a limited form of structural intervention for certain musculoskeletal injuries.

This lecture summarises our four-year experience with the primary and adjunctive use of autologous thrombin activated PRP in treating musculoskeletal injuries. The basis of selection of suitable patients, the techniques used, and results in several case studies will be presented.

TRACK II – MUSCULOSKELETAL & ORTHOPEDIC SURGERY



Dr. Jalal Hassoun¹

Orthopedic Surgeon, Traumatologist – Casablanca – Morocco President of the Moroccan Society of Orthopedic Surgery (SMACOT) 2014–2016 Associate Professor at the Faculty of Medicine and Pharmacy at Mohamed VI University of Health & Sciences – Morocco

Mr. Farid Gomri, MSc.²

Business and Product Associate RegenLab SA General Manager RegenLab Africa **Switzerland**

NOTES

Prof. Jalal Hassoun is an Associate Professor at the Averoes University Hopsital Center, in the department of orthopedic and trauma surgery. He was president of the Moroccan Society of Orthopedic and Traumatology Surgery (SMACOT) and a member of the French society of the orthopedic surgery. Prof Hassoun has an experience in regenerative medicine, through the use of the Cellular Matrix, of more than 5 years.

Abstract

Treating knee osteoarthrosis with Cellular Matrix, a retrospective study of more than 330 knees.

All joints can be affected by osteoarthritis. Osteoarthritis of the spine and hand are the most common and it is estimated that in 30% of cases, the knee is affected. This can affect the femoro-tibial joint as well as the femoro-patellar joint or both at the same time.

The treatment options for knee osteoarthritis are numerous and diverse and include both drug and non-drug routes.

The objective of our study is to evaluate the effectiveness of the medical device, Cellular Matrix, which combines a matrix, cells and growth factors, in the management of femoro-tibial knee osteoarthritis (more than 300 cases) after failure of analgesics and failure or intolerance of non-steroidal anti-inflammatory drugs (NSAIDs), and failure of prior viscosupplementation, in patients with Kellgren and Lawrence stage II-III femoro-tibial gonarthrosis. Results will be presented in the New-York Biobridge Conference 2022.



Dr. Jen Li PAN

Pain Medicine Specialist Taiwan

CURRENT POSITIONS

- 1. Medical Director, PAN Regenerative Pain Clinic, Taipei, Taiwan
- 2. Executive Director, Taiwan Pain Society
- 3. Attending Physician, Department of Physical Medicine and Rehabilitation, Taipei Medical University Hospital

Abstract

Precision PRP Pain Intervention

The applications of PRP in pain and musculoskeletal medicine have been widely adopted as one of the standard interventional approaches. However, despite its powerful tropic/immunomodulatory potentials, the successful rate of PRP treatment remains suboptimal. One of major reasons is that the precision of PRP intervention were not completely achieved.

These precision issues may include: 1. precision target tissue recognition 2. precision PRP regimen 3. precision PRP delivery under guidance 4. precision coupling strategies with other interventional modalities, such as dry needling, percutaneous needle tenotomy(PNT), hydrorelease/hydro dissection, to name a few.

Once these "precision gaps" are fully recognized and well filled up by the endeavors of PRP interventionists, the successful rate will definitively rise to a brand new horizon.



Dr. Ralf Smeets

Vice Head of Department of Oral & Maxillofacial Surgery, Head of Division of "Regenerative Orofacial Medicine"; Head of Research **Netherlands**

1990 – 1995 Chemical Studies in RWTH Aachen University 199 – 2003 Study of Medicine and Dentistry in University Hospital Aachen

- 2008 Specialisation in OMFS
- 2009 Specialisation in Oral Surgery

2011 – 2018 Senior Consultant Department Oral and Maxillofacial Surgery, University Medical Center Hamburg-Eppendorf

2011 – Full Professor of Oral and Maxillofacial Surgery, University Medical Center Hamburg-Eppendorf

2018 – Head of Division "Regenerative Orofacial Medicine" of the Department Oral and Maxillofacial Surgery, University Medical Center Hamburg-Eppendorf

2019 – Vice Head of Department Oral and Maxillofacial Surgery, University Medical Center Hamburg-Eppendorf

2020 – Visiting Professor at the Department of Oral and Maxillofacial Surgery of the Hebei Medical University, Shijiazhuang, P.R. China

Abstract

Applications of PRP in Oral and Maxillofacial Surgery

Platelet-rich Plasma (PRP) has been widely used in the cosmetic and the medical field for various regenerative purposes such as the regeneration of tissue, bone, and ligaments, hair-loss therapy, wound healing or skin rejuvenation due to its ability to induce tissue regeneration and angiogenesis. This regenerative capacity can be attributed mostly to its high content of growth factors such as platelet-derived growth factor (PDGF), basic fibroblast growth factor (BFGF), insulin-like growth factor (ILGF), transforming growth factor-B 1 and 2 (TGF-B1, TGF-B2), epithelial cell growth factor (ECGF) or vascular endothelial growth factor (VEGF). Another great advantage of PRP is its absolute immune-biocompatibility which therefore allows for versatile forms of application.

Important areas of application include bone augmentation, temporomandibular ioint disorders (TMD) and medication-related osteonecrosis of the jaw (MRONJ) as well as peri-implantitis, socket preservation after tooth extraction, dentalimplants, periodontal disease and sinuslift augmentation. The main application of PRP in oral and maxillo-facial surgery at the University Hospital Hamburg-Eppendorf currently focuses on TMD and MRONJ and presently comprises two main projects: The application of A-PRP and HA/A-PRP (CellularMatrix) in the therapeutic management of TMD as well as for the surgical treatment of MRONJ. PRP has already being investigated for myofascial pain reduction, disc displacement, TMJ-OA as well as in refractory TMD with promising results. The application of PRP in MRONJ has been investigated in various studies. Despite promising benefits from PRP inclusion into MRONJ treatment, there is unfortunately not enough data available to sufficiently support the effectiveness of PRP in MRONJ, thus showing the need for further clinical studies. The addition of PRP to the conventional treatment of MRONJ could prove to be beneficial not only for the treatment but also for the prevention of MRONJ especially by supporting wound healing and tissue regeneration. PRP preparation consists in removing red and white blood cells, which delay the healing and concentrating platelets, thereby increasing factors that are useful in healing. To fulfill the need of a standardized PRP preparation, RegenLab has developed the polymer-gel separation system. This allows to efficiently recover platelets and deplete red and white blood cells in an automated close circuit system. This provides regenerative stimuli that accelerate and promote tissue repair, by increasing the recruitment, proliferation and differentiation of the cells involved in tissue regeneration. Although PRP can be applied advantageously in various areas and for numerous conditions, more research is required to broaden the field of application of PRP preparations.

Dr. Filiberto Serraino

Professor of Cardiac Surgery, MD, PhD Italy Giuseppe Filiberto Serraino is Professor of Cardiac Surgery at the "Magna Graecia" University of Catanzaro, ITALY. His research topics are: inflammation, prevention medicine, valvular and coronary artery diseases, ventricular assistance and aorta disease. He has a PhD in "Biomarkers of chronic and complex diseases". From 2015 to 2017 he was honorary fellow at Leicester University - UK (BHF foundation). He is editor of 7 International Reviews and Principal Investigator for 11 International Multicentric Studies.

Abstract

RegenPRP and ATS in sternotomy reduce the incidence of sternal wound infections

Wound infection represents a frequent trouble following median sternotomy and open saphenous vein harvesting in cardiac surgery. Platelets' growth factors are crucial for the healing process. Prophylactic platelet rich plasma (PRP) application on the chest and leg wounds reduce the incidence of saphenous vein harvest site infections in patients undergoing coronary artery bypass graft surgery (CABG). We can conclude that topical application of autologous PRP on the chest and saphenous vein harvest site might reduce the rate of surgical site infection, with particular benefit among diabetic patients

Steven Levine, PhD is the Leader of Virtual Human Modeling at Dassault Systèmes. He is Founder and Executive Director of the Living Heart Project and is responsible for a digital healthcare incubator within the 3D EXPERIENCE Labs. Prior to his current role, he was Chief Strategy Officer for SIMULIA, the simulation brand within Dassault Systèmes. Dr. Levine was elected into the College of Fellows in the American Institute for Medical and Biological Engineering (AIMBE) in 2017 and holds a PhD in Materials Science from Rutgers University. He began his career in health tech at a startup who went public as Accelrys, where he led Corporate Development prior to its acquisition by Dassault Systèmes in 2014.

Dr. Steven M. Levine, PhD

Senior director of virtual human modeling at Dassault Systèmes **United States**

CLOSURE

Mohammed Cherkaoui is an award-winning professor, author, and internationally recognized researcher, and a pioneering figure in micromechanics, nuclear engineering, nuclear medicine, and drug discovery. Stanford University Report Ranks Vice President and Provost of Academic Affairs Dr. Mohammed Cherkaoui Among the World's Top 2% Scientists

Dr. Mohammed Cherkaoui has authored more than 200 publications including the first-ever micromechanics textbook. His international accolades include a tenured professorship at Georgia Institute of Technology, an Endowed Chair and professorship at Mississippi State University, the France Medal from the National Center for Scientific Research, the Obama Award under the Material Genome Initiative, and the Lorraine Award for Excellence in Technology Transfer.

Dr. Mohammed Cherkaoui

Mohammed Cherkaoui, PhD Vice President of Research Louis and Johanna Vorzimer Endowed Chair Professor in Digital Health and Nuclear Medicine Board Member of RegenLab Switzerland Scientific Advisor of FusionFuel Corporate USA **Morocco**

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